



A PhD position in hybrid-zone genomics of a legless lizard (*Anguis*)

[The HerpDiv Research Group](#) (Václav Gvoždík's group) at the [Institute of Vertebrate Biology, Studenec](#), Czech Academy of Sciences, is seeking a highly motivated student who ideally holds (or will finish soon) MSc in population genetics, mathematical biology, bioinformatics or a related topic. The successful applicant will be involved in a project focusing on population/landscape genomics of the hybrid zone of a legless lizard (*Anguis*).

Project: *Anguionics: Genomic insights into the evolutionary history and contact zones of slow-worm lizards (Anguis)*

The project will combine multidisciplinary techniques using three types of genomic data (phylo-, cyto-, and population) and GIS-based environmental niche modelling in *Anguis* lizards. The first two parts, phylogenomic inference and cytogenomic characterization of the species will be separate sub-projects. Within the announced position, the successful applicant will be focusing on genome-wide variation (reduced representation; ddRADseq data) at a population level across the secondary contact zone of *A. fragilis* and *A. colchica* in two geographic regions (central Europe and northern Balkans). This will allow us to empirically assess levels of introgression and estimate the strength of barriers maintaining divergence between the species, and to compare the situation in the two regions. We will further test association between genomic variation and environmental parameters, potentially identifying loci under selection by environmental factors. This will allow us to assess if the two species respond to environmental factors in a similar or different way, and to understand the balance between endogenous and exogenous selection acting in the contact zone.

The successful applicant will be enrolled in the **PhD program of the Masaryk University in Brno (MUNI)**, Faculty of Science, [Department of Botany and Zoology](#). Employment and analytic work will be realized at the [Institute of Vertebrate Biology, Studenec](#), and the study will be supervised by [Dr. Vaclav Gvozdik](#) (evolutionary biology of reptiles). The pool of potential co-supervisors includes [Dr. Stuart J.E. Baird](#) (speciation research, genomics). The length of the PhD study is 4 academic years starting in September 2018, with a preferred **start of employment in July 2018**.

Main responsibilities – analytic works:

- bioinformatics – working with reduced-representation genomic data (ddRADseq or possibly other type of genomic data)
- working with GIS-based environmental data
- involvement in field work and wet-lab is welcome but not necessary (depending on interests of the successful candidate)

Applicant's profile:

We seek a bright and highly motivated candidate with

- a master's degree in a relevant field such as population genetics, mathematical biology, bioinformatics or molecular/evolutionary biology (summer 2018 at the latest)

- experiences in bioinformatics, programming (or at least basic scripting in Linux) and/or GIS-based analyses
- enthusiasm in both biological and computational questions
- ability to work in a team but also independent initiative
- good oral and written communication skills in English
- documented experience with scientific writing will be advantageous
- driving licence, if interested in taking part in field work, will be also advantageous

We offer:

- attractive research topic in an established international team
- possibility to take part in field work both in the Czech Republic and abroad (Balkans)
- sufficient financial and logistical sources for the project
- salary will be paid according to the Czech academic standards – 60% position for PhD candidate + scholarship, i.e. approx. 240,000 CZK annual income (this sufficiently covers living expenses in the Czech Republic)
- plus various student/employee bonuses (e.g. a possibility of being accommodated in an institutional apartment in Studenec for a reasonable rent)

Applicants should send a structured CV with contacts for two referees and a motivation letter (one page) to Vaclav Gvozdik, vaclav.gvozdik@ivb.cz with email subject “PhD position”. Any questions shall be sent to the same email address. **The review of applications will begin on 17 February 2018 and continue until the position is filled.** The PhD position is starting between July – September 2018 but candidates must register for the study at the MUNI till the end of April 2018.

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